WASHINGTON STATE UNIVERSITY
KING COUNTY EXTENSION

Biological Control of Noxious Weeds

Non-native noxious weeds are destroying biological diversity throughout Washington, decreasing forage and habitat for wildlife and livestock, increasing wind and water erosion, and decreasing land values. Many years of manual and chemical control are often required to have any impact on large infested areas, which can result in significant expenses for landowners and public agencies. For such situations, biological control offers an inexpensive, long-term weed suppression option, as site appropriate insects will self-perpetuate. The mobility of biocontrol agents also allows them to disperse to new and unknown weed infestations that may be difficult to reach with other control practices. Biological control is not a quick fix; agents may take several years to establish and perhaps longer to have significant impacts on weed infestations. Even so, some agents have proven to be extremely effective over time at reducing weed infestations to a manageable size, and are in many cases the best management option. WSU Extension heads the *Washington State Integrated Noxious Weed Invasive Species Project* (INWISP) aimed at promoting the use of biocontrol agents for invasive plant management. In western Washington, King County Extension is taking the lead to assess and help meet the needs of this region.

Project Goals:

- Establish biological agents and manage them on a statewide scale to suppress noxious weeds in selected situations in a less expensive and more practical manner than other control methods.
- Increase public awareness of the benefits and appropriate use of biocontrol as part of an integrated management strategy.
- Foster and expand the westside component of the statewide project.

A release of insects on purple loosestrife receives some attention at Marymoor Park in 2004. *Photo R. Brunskill*

Biocontrol Makes Progress!

- Impacts of biocontrol on purple loosestrife are becoming more evident; many sites have well-established biocontrol populations.
- An upcoming article will run in the Peninsula Daily News in Jefferson & Clallam Counties featuring biocontrol releases on purple loosestrife, Scotch broom, and meadow knapweed.
- The project was featured on the TV Tacoma program CityScape for its work with Tacoma Power using biocontrol on city lands.
- Several TV networks and newspapers in the Seattle area covered a release of insects late last season, in cooperation with the King County Noxious Weed Control Program.

Spring 2005 Insect Collections and Releases

- 12,875 insects collected in Idaho, Oregon, and eastern WA have been released across 27 sites in western WA.
- Targets have included: purple loosestrife, St. Johnswort, Scotch broom, bull thistle, and Dalmatian and yellow toadflax.
- Planned releases for summer include insects for spotted, diffuse and meadow knapweed, Canada thistle, tansy ragwort and purple loosestrife.
- 17 of the 19 western WA counties have expressed interest in the project as a part of their weed management strategy; we are now actively working with Clallam, Island, Jefferson, King, Lewis, Mason, Pierce, Skamania, Snohomish, and Thurston.
- In addition to county weed programs, McChord Airforce Base and Coumbia Land Trust are also participating.

Education and Public Outreach

- Sponsored Adrianne Peterson of the North American Weed Managers Association Weed-Free Forage Program to speak in May at the Backcountry Horsemen of WA Rendezvous to promote weed-free forage programs and policies in Washington.
- Upcoming poster presentation at 2005 Western IPM Center Symposium - Water, Wildlife, and Pesticides in the West: Pest Management's Contribution to Solving Environmental Problems.
- Invited to present in July for Weyerhaeuser's Nisqually River Forest Reserve Buyers Workshop.

June 2005

Enhancing the use of biological control agents for noxious weed management

Project History:

In 1999, led by WSU Ferry County Extension, collaboration began between four northeast county noxious weed control boards, Colville Confederated Tribes, and US Forest Service to expand the use of bioagents in northeast Washington to fight invasive weeds. USFS was a major contributor of funds to this effort, and the *Quad County and Colville Reservation Bioagent Project* was initiated.

The Project gets some help releasing insects from Leevon Carlson, a great helper in Mason County. *Photo T. Zimmerman*

Since that time, suppression of diffuse knapweed (*Centaurea diffusa*), by the lesser knapweed flower weevil (*Larinus minutus*) has been significant. So significant that financial support of the project has increased to allow for an increase in public outreach efforts and, in 2002, expansion westward as INWISP. The statewide project is funded by the US Forest Service, county extension and weed board offices, Colville and Yakima Nation Reservations, WA State Department of Fish & Wildlife, WA Department of Natural Resources, and other collaborators.

Larinus minutus beetles just released on a spotted knapweed infestation. *Photo K. Ward*

Regional Effort:

In western Washington the target species and the need for biocontrol differ from eastern and central Washington, but the larger project goals remain the same. Biocontrol has been utilized in western WA by county noxious weed control programs for some time, but these efforts have varied greatly from county to county and have been limited by a lack of landscape-wide activity. A new project coordinator was hired in March 2005 to coordinate insect collection, redistribution, and educational events in the 19 counties of western Washington. In addition to the funding support the statewide project has received, both King and Pierce County Noxious Weed Control Boards have contributed for a second season to support the western Washington project area.

Scotch broom infestation in Pierce County received a *Bruchidius villosus* release and will serve as an insectary site. *Photo J. Andreas*

Future Plans:

INWISP continues to grow and evolve in western Washington with the needs of the region. Upcoming additions include:

- Establishing insectary sites for future insect collection and redistribution.
- Expanding the focus of the project to include other integrated weed management techniques, especially in counties with under-funded weed boards.
- Expanding outreach efforts by developing a state-wide project website and educational materials.
- Expanding the project into remaining western WA counties.

For more information on weed biocontrol in western Washington please call 206-205-3135

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